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Notice of Allowability	Application No.	Applicant(s)	
	10/709,307	KER ET AL.	
	Examiner	Art Unit	
	Tsz K. Chiu	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/27/06.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

- Attachment(s)**
- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

The following is an examiner's statement of reason for allowance:

Claim 1 is allowed since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Yu (6433979) or Ker (6858901) taken individually or in combination do not teach the claimed invention.

Yu (6433979) teaches a p substrate; a first n-well formed in the p-type substrate; a n+ diffusion partially formed in the N-well region (figure 3A) and a p+ diffusion forming between the n+ diffusion in the N-well but did not disclose that a plurality of isolation structure formed between the pluralities of n+ and p+ diffusion areas also Yu did not teach a second and third N-well forming in the P type substrate.

Ker et al. (6858901) discloses a ESD protection circuit device comprises a P-type substrate (40, For example Fig. 11A); a first N-well region (middle reference number 54, For example Fig. 11A), formed within the P-type substrate (40, For example Fig. 11A); a second N-well region (left reference number 54, For example Fig. 11A), formed within the P-type substrate, and on one side of the first N-well region (middle reference number 54, For example Fig. 11A); a third N-well region (right reference number 54, For example Fig. 11A), formed within the P-type substrate (40, For example Fig. 11A), and on another side of the first N-well region, opposite to the second N-well region; a plurality of N+ diffusion areas, comprising: a first N+ diffusion area (56, For example Fig. 11A), formed in the first N-well region and coupled to an external power terminal; a second N+ diffusion area (left reference number 46, For example Fig. 11A), formed in the first N-well region and on one side of the first N+ diffusion area, as a N-type trigger terminal of the double-triggered silicon controlling rectifier; a third N+ diffusion area (right

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reference number 46, For example Fig. 11A), formed in the first N-well region and on another side of the first N+ diffusion area, opposite to the second N+ diffusion area as the N-type trigger terminal of the double-triggered silicon controlling rectifier; a fourth N+ diffusion area (most right reference number 46, For example Fig. 11A), partially formed in the third N-well region and partially formed in the P-type substrate, and on one side of the second N+ diffusion region, opposite to the first N+ diffusion region as a cathode of the double-triggered silicon controlling rectifier; and a fifth N+ diffusion (most left reference number 46, For example Fig. 11), partially formed in the third N-well region and partially formed in the P-type substrate, and on one side of the third N+ diffusion region, opposite to the first N+ diffusion region as the cathode of the double-triggered silicon controlling rectifier; a plurality of P+ diffusion areas, comprising: a fifth P+ diffusion area (right reference number 42, For example Fig. 11A), formed within the P-type substrate and on one side of the fourth N+ diffusion area, opposite to the third P+ diffusion area, as a ground terminal of the double-triggered silicon controlling rectifier; and a sixth P+ diffusion area (left reference number 42, For example Fig. 11A), formed within the P-type substrate and on one side of the fifth N+ diffusion area, opposite to the fourth P+ diffusion area, as the ground terminal of the double-triggered silicon controlling rectifier; and a plurality of isolation structures (52b, For example Fig. 11A), formed within the P-type substrate and between spaces of the pluralities of N+ and P+ diffusion areas, however Ker (6858901) fail to teach a first P+ diffusion area, formed within the first N-well region and between the first N+ diffusion area and the second N+ diffusion area, as an anode of the double-triggered silicon controlling rectifier; a second P+ diffusion area, formed within the first N-well region and between the first N+ diffusion area and the third N+ diffusion area, as the anode of the double-triggered silicon controlling rectifier; a third P+ diffusion area, formed within the P-type substrate between the first and the third N-well regions, and between the second and the fourth N+ diffusion areas, as a P-type trigger terminal of the

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double-triggered silicon controlling rectifier; a fourth P+ diffusion area, formed within the P-type substrate between the first and the second N-well regions, and between the third and the fifth N+ diffusion areas, as the P-type trigger terminal of the double-triggered silicon controlling rectifier.

Therefore, Claims 1-6 are allowed.


Acknowledged that claims 7-13 are canceled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsz K. Chiu whose telephone number is 517-272-8656. The examiner can normally be reached on 0800 to 1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra V. Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TKC
March 30, 2006


Zandra V. Smith
Supervisory Patent Examiner
31 March 2006